

National Environmental Health Association



Food Safety Program

November 2008

NEHA's Organizational Background and Capability

Since 1937, the National Environmental Health Association (NEHA) is the national organization that represents the professionals who work in the environmental health (EH) disciplines. NEHA's mission is to advance the EH professional (EHP) for the purpose of providing a healthful environment for all, and with 4,600 members, NEHA represents more local EHPs including food safety professionals (FSPs) than any other organization. NEHA's mission of advancing EHPs and FSPs is consistently exemplified through its many education and training programs.

NEHA's membership and clients represent individuals working in EH and FS and includes the private and public sectors, but the majority of its membership work in state and local health. FS is a very important focus area for NEHA. With NEHA's Research and Development (R&D) programs, Credentialing Department, Food Safety Training, Annual Education Conference (AEC) & Exhibition, Affiliates, Food Safety Technical Section Chairs, *Journal of Environmental Health (JEH)*, and various partnerships, NEHA strongly represents and understands the needs and issues that surround the EH profession. The following is a breakdown of NEHA's background and organizational capabilities, which showcases why NEHA is uniquely positioned as a vital organization that benefits all involved in EH and FS.

Research and Development (R&D)

NEHA has a long and successful record of accomplishments in performing grant and contract work for federal agencies, specifically in FS through its R&D Department. R&D currently has a number of EH projects and activities underway.

The Council to Improve Foodborne Outbreak Response (CIFOR)

NEHA is an active member of the Council to Improve Foodborne Outbreak Response (CIFOR) and has representatives on the larger CIFOR Council as well as on several workgroups. With the support of the Centers for Disease Control and Prevention (CDC), the U.S. Food and Drug Administration (FDA), and the Council of State and Territorial Epidemiologists (CSTE), NEHA is the lead organization of two CIFOR workgroups, the CIFOR Training Workgroup and the CIFOR Foodborne Illness Complaint Workgroup.

CIFOR Training Workgroup

CIFOR wanted to learn what types of foodborne disease outbreak detection and investigation training courses are currently offered across the nation with the goal to increase the availability of these courses, so the CIFOR Training Workgroup was created with the support of CDC, FDA, CSTE, and NEHA. Members include representatives from federal government agencies, state health departments, local health departments, and non-governmental organizations. The

Workgroup's purpose and objective is to obtain information on various foodborne disease outbreak detection and investigation training courses, evaluate the training courses, provide recommendations to address training gaps and areas of improvement based on the evaluations, and then make recommendations to CIFOR.

CIFOR Foodborne Illness Complaint Workgroup

CIFOR also wanted to learn about foodborne illness complaint systems that are currently in place across the nation with the possibility of building a national or regional complaint system, so the CIFOR Foodborne Illness Complaint Workgroup was created with the support of CDC, FDA, CSTE, and NEHA. Members include representatives from federal government agencies, state health departments, local health departments, state department of agriculture, academic institutions, and non-governmental organizations. The Workgroup's purpose and objective is to obtain information about foodborne illness complaint systems, discuss the pros and cons of those systems as well as the pros and cons of building a possible national or regional complaint system, and then make recommendations to CIFOR.

Epi-Ready Team Training

In cooperation with CDC's Food Safety Office, NEHA has developed the nationwide initiative, Epi-Ready Team Training: Foodborne Illness Response Strategies. This is a two-day face-to-face workshop that provides up-to-date foodborne illness outbreak investigation and surveillance training to local and state level EHPs. The workshop was the recipient of the 2008 Food Safety Leadership Award from NSF International. Epi-Ready aims to increase the competency level and confidence level of EHPs through education, including teamwork strategies, and outbreak investigation/reporting, which remains a primary objective of the course. Epi-Ready Team Training amalgamates the many health disciplines (e.g., EH, epidemiology, laboratory, public health nursing, etc.) involved in conducting a successful outbreak investigation in order to emphasize the importance of teamwork. To date, the Epi-Ready workshop has trained over 1,400 local and state EHPs and FSPs, representing 48 states as well as Jamaica and Shanghai, China.

In conjunction with CDC, Epi-Ready is receiving additional technical and funding support from the U.S. Department of Agriculture (USDA)/Food Safety Inspection Service (FSIS). With the help of CDC and USDA/FSIS, Epi-Ready can make a valuable contribution toward the common goal of building increased capacity in local FS and protection programs. In order to ensure this goal, Epi-Ready offers an additional one-day Train-the-Trainer workshop which advises and trains local/state EHPs and FSPs on how to train the team training approach to foodborne illness response within their local or state jurisdiction. Thereby increasing the number of EHPs trained as well as increasing the capacity of local FS and protection training programs. Epi-Ready Train-the-Trainer has trained approximately 145 professionals involved in FS positions to date.

Increasing the capacity of local FS and protection training programs led to a new training delivery strategy targeted at involving an even broader EH audience. Recently, NEHA e-Learning, one of NEHA's principal training entities, and CDC's Food Safety Office combined its talents and resources by offering an interactive Web cast in conjunction with a regularly scheduled face-to-face Epi-Ready Team Training workshop. This allowed for more than double

the number of attendees to be trained. The feedback from the attendees was uniformly positive. Although not meant to replace face-to-face training, the comments that were received reflected the need for this type of distance-based learning because it expands the opportunity to take advantage of training that otherwise would not be an option for departments that do not have funding or time to support overnight travel. Due to this feedback and response, USDA/FSIS has pledged supplemental funding to support Web cast opportunities in the future.

Ethnic Food Safety Proposal

The market for ethnic/non-traditional or culture-focused foods (ethnic foods) is growing and many ethnic foods (e.g., Mexican, Italian, and Chinese) are now considered mainstream (Hensley, 2000; Simonne, Nille, Evans, & Marshall, 2004). An increase in the total number of foodborne illness outbreaks attributable to ethnic foods has also been reported (CDC, 2003; Simonne, Nille, Evans, & Marshall, 2004). Furthermore, many ethnic foods remain unfamiliar to consumers as well as EHPs and FSPs. Yet, little science-based information exists on foodborne illness risks associated with these foods.

Through NEHA's membership, it was recognized that foods from other countries have increasingly become available in food establishments across the U.S. To determine if ethnic FS is a concern among EHPs and FSPs and to determine the level of ethnic food/ethnic FS knowledge possessed by those disciplines, NEHA and Michigan State University (MSU) sponsored a Web-based needs assessment study. The results of that survey clearly indicated that there were several ethnic foods with which they were unfamiliar, as well as concerns with improper food temperatures, cross-contamination, unlabeled or mislabeled foods, communication (language) barriers, and use of foods from unapproved sources. Based on the results of the needs assessment, NEHA is currently researching funding opportunities to improve the safety of foods prepared and sold at ethnic food establishments. Proposed issues include: researching epidemiological and microbiological data of these foods; providing education, training, and outreach resources to EHPs and FSPs who work in local, state, and federal health departments; educating ethnic food establishment owners and employees; and assisting with the food inspection process.

Food-Safe Schools Program

NEHA's Food-Safe Schools (FSS) Program is dedicated to improving the health, education, and well-being of young people. Through the FSS Program and with the collaboration of the USDA/Food and Nutrition Service (FNS), CDC/Division of Adolescent and School Health (DASH), and other partner organizations, NEHA helps build the capacity of health and education departments to work within coordinated school health programs to prevent foodborne illnesses.

The goals of this program are: to build a framework of national partnerships supporting model FSS Programs, to make each organization playing a role in school FS aware of the numerous resources that exist nationwide, to promote and distribute the *Food-Safe Schools Action Guide (FSSAG)* toolkit as an active member and partner of the National Coalition for Food-Safe Schools (NCFSS) and the Clean Hands Coalition (CHC).

NEHA's activities in the FSS program include:

- Participation in NCFSS—NEHA is a member of NCFSS (www.foodsafeschools.org), which has representatives from national organizations, associations, and government agencies working together to reduce foodborne illness in the U.S. by improving FS in schools. NCFSS serves as a one-stop gateway to a wealth of school FS information and resources.
- Participation in CHC—NEHA is also a member of CHC (www.cleanhandscoalition.org), a unified alliance of public and private partners working together to create and support coordinated, sustained initiatives to significantly improve health and save lives through clean hands. Good hand hygiene is one of the most important steps people can take to prevent illness and the transmission of disease. Also, through CHC, NEHA helps promote the Healthy Schools, Healthy People—It's a SNAP Program (School Network for Absenteeism Prevention, www.itsasnap.org), a grassroots, education-based effort to improve health by making hand cleaning an integral part of the school day.
- Promotion of the *FSSAG* Toolkit—in cooperation with CDC/DASH, USDA/FNS, and the partners of NCFSS, the *FSSAG* toolkit was established to help schools assess their FS programs and to address any areas of need to help prevent young people from becoming ill from improperly prepared or mishandled food. NEHA is collaborating with USDA/FNS, CDC/DASH, and NCFSS partners to promote and distribute the *FSSAG*. NEHA is currently distributing *FSSAGs* through its Epi-Ready Team Training Workshops.
- Enhancement and promotion of NEHA's FS Resources Reviews Web Site—in cooperation with CDC, NEHA developed a user-friendly Web site that is easily accessible to the public and serves as a resource for FS information. Through additional collaboration with USDA/FNS, NEHA has an experienced team of FS and education experts that review, evaluate, and recommend FS resources for content, quality, and compatibility with the FDA *Food Code*. To access the reviews, please visit www.foodsafetyweb.info/NEHA/Reviews/List.asp.

National Center for Food Defense

NEHA continues to assist the University of Minnesota on a food bio-security project. NEHA has developed a generic version of the Epi-Ready Team Training food security curriculum that will be available on the University of Minnesota secure FoodSHIELD Web site. This will allow all subscribers to the FoodSHIELD site the ability to review the outbreak investigation team-training course and utilize its content for educational purposes. As a follow-up to the focus group sessions conducted at the 2007 AEC & Exhibition, the University of Minnesota presented a Terrorism and All-Hazards Preparedness session at the 2008 AEC & Exhibition, "Taking out the Garbage: Suggestions on Improving Food Protection and Defense Education and Training."

Retail-Food Service Food Safety Consortium

NEHA is collaborating with Utah State University to establish a Retail-Foodservice Food Safety Consortium (RFSC). RFSC will help facilitate communication from the national to the local level and contribute to improving FS throughout the nation. NEHA will participate in annual roundtable meetings, serve as a liaison to communicate with regional membership affiliates and retail FS sub-groups, provide best practices on retail FS, collaborate on information sharing, and

participate in annual needs assessment of research needs and priorities. One of the many ways NEHA contributed to this effort was through a RFSC Learning Laboratory “listening” session during its 2008 AEC & Exhibition, “Food Safety Training & Education Needs? Speak Up!”

The educational session’s focus was to begin a discussion on the training and educational needs of EHPs and FSPs. Six focus group sessions were held with a total of 30 participants attending. Participants had a role in FS training and education in their job and were asked a series of FS questions related to retail and foodservice. The focus group sessions were asked the same questions, however, some groups focused on different questions or topics more than others. Discussion emphasized that with inspections dominating the day, how do EHPs and FSPs find the time and resources for educating and communicating with operators? Also discussed was how educating foodservice operators and staff have become an important part of health department objectives, but financial resources are tight and time is tighter. The session allowed attendees to express their FS training and education needs so NEHA and RFSC could help. The summary of the focus group data will be used to create a survey instrument. A larger number of FS educators will then be surveyed through NEHA’s membership to quantitate their agreement or disagreement with the focus group observations. The data will provide a baseline needs assessment to guide future activities.

Credentials & Continuing Education

NEHA offers a total of ten national credentials:

- Registered Environmental Health Specialist/Registered Sanitarian (REHS/RS);
- Certified Professional-Food Safety (CP-FS) [formerly known as the Certified Food Safety Professional (CFSP)];
- Certified Environmental Health Technician (CEHT);
- Registered Environmental Technician (RET);
- Registered Hazardous Substances Specialist (RHSS);
- Registered Hazardous Substances Professional (RHSP);
- National Radon Proficiency Program (NRPP):
 - NEHA NRPP Residential Measurement Provider
 - NEHA NRPP Residential Mitigation Provider;
- Certified Installer Onsite Wastewater Treatment System (CIOWTS); and
- Healthy Homes Specialist (HHS).

Each program has requirements in place to obtain the credential (i.e., eligibility criteria), as well as requirements to maintain it through continuing education.

The CP-FS credential was developed in 1998 in response to the passage of the National Food Safety Initiative. The development of the credential was endorsed by the Conference for Food Protection (CFP) and the Association of Food and Drug Officials (AFDO). The focus of the CP-FS is for FSPs who have demonstrated advanced knowledge in FS, protection, and inspection. These professionals include health inspectors, quality control managers, food production supervisors, training instructors who teach food handler and food manager programs, corporate training officers, institutional food managers, dieticians, chefs, food preparation professionals in health care institutions, and commercial food processors, as well as professionals with an

REHS/RS credential whose focus is in FS. Approximately 4,300 individuals currently hold at least one NEHA credential. This demonstrates both our capacity and commitment to provide quality and nationally recognized EH competency assurances.

Food Safety Training

NEHA's Food Safety Training department develops manager and food handler training materials—currently based on the 2005 FDA *Food Code* with the 2007 supplemental updates. In addition to the textbooks, PowerPoint presentation, trainer activity guide, and food establishment reference documents, NEHA has a network of registered trainers and proctors throughout the U.S. NEHA's materials and courses successfully prepare FS managers to pass any of the three American National Standards Institute (ANSI)-CFP nationally accredited certification examinations. NEHA's registered trainers must demonstrate FS knowledge and have experience training or teaching as well as experience in the food industry. A NEHA Certified Trainer must also have passed an ANSI-CFP accredited FS manager examination or hold a NEHA CP-FS credential. FS training is available in the classroom or online, and the materials can be customized per specific company or jurisdictional requirements. NEHA is also in the process of developing a Hazard Analysis Critical Control Points (HACCP) manager certification program and has been working with current trainers to increase their scope of the HACCP principles and learn to train this increasingly essential process of ensuring safe food at every step from farm to fork. HACCP method training materials and a certification evaluation will be ready for distribution by the end of 2008.

Annual Education Conference (AEC) & Exhibition

NEHA's AEC & Exhibition is the most comprehensive conference on EH and protection with one of its main education tracks on FS and protection. New educational sessions are presented every year for each of the various educational tracks. The AEC & Exhibition takes place over six days (including two days of pre-conference workshops) where numerous educational sessions are presented in several educational tracks. The FS and protection educational sessions are traditionally some of the best-attended sessions of the conference. NEHA always attracts renowned professionals to speak on FS issues.

NEHA's technical sections reflect the diversity of expertise within the association and consist of members with specialized expertise. The volunteer Technical Section Chairs are responsible for planning the educational sessions and inviting speakers for particular educational tracks. They select educational topics for the paper, panel, and poster presentations based on expertise and the needs of EHPs and FSPs—and the FS and Protection Technical Section Chairs do this for the FS and protection educational track.

NEHA continues its tradition of ambitious efforts to provide an educationally comprehensive experience for its attendees. The 2008 AEC & Exhibition educational program contained pre-conference workshops and educational sessions mostly focusing on FS and protection, terrorism and all-hazards preparedness, and onsite wastewater systems, but the educational program also included topics that relate to FS and protection: vector control and zoonotic diseases, geographic

information systems, drinking water quality, emerging pathogens, children's EH, institutions/schools EH, EH leadership development, and many others. NEHA also has debuted some new educational opportunities with new formats for learning, including: small group settings, peer facilitated sessions, problem solving as a group, learning from one another's mistakes, opportunities for the attendee to be the expert—share their knowledge, designing solutions, forming learning communities, and sharing practical knowledge and tools attendees can put to use right away. NEHA's extensive organizational capabilities in designing and implementing sophisticated educational programs for EHPs and FSPs is demonstrated in the below FS and protection track from the 2008 AEC & Exhibition.

Keynote Session

A Discussion Within the Profession: Who Are We and Who Do We Want To Be?! The 2008 AEC & Exhibition keynote was unlike any that NEHA had ever presented. The keynote featured a panel of highly respected EHPs who were specifically asked to participate on this panel by NEHA's president (currently NEHA's immediate past president), Rob Blake, Chief, Environmental Health Services Branch, CDC/National Center for Environmental Health (NCEH). They were charged with engaging the audience on the topic of who are we and who do we want to be. To understand the significance of the keynote and what it meant to the EH profession, it is instructive to go back to the time of the creation of the U.S. Environmental Protection Agency (EPA). Many NEHA members well remember the transfer of many EH programs from public health institutions to the newly created EPA. To some, these changes amounted to nothing more than programmatic transfers from one institution to another. To others, however, these transfers redefined and even diminished what EH was. Today we appear to be facing a situation that looks eerily similar to the situation that existed just before the EPA was created. Before the EPA was created, enormous interest had developed for a new and heightened initiative on behalf of environmental protection. Today, change the words environmental protection to FS and the situation looks like an instant replay of the late 60's. And serious talk is taking place about the creation of a new Food Protection Agency (FPA)—in the mold of the EPA. If this institutional change takes place and a new federal FPA is established (along with state counterparts), what will happen to the identity of EH? Will the issue of FS dissolve out of EH like air and water pollution did in the 70's? What will remain of EH? What are the implications of such a change for local public health departments, which almost all sponsor major food protection programs. This special keynote was developed because NEHA firmly believes that this discussion is long overdue; it is crucial that this discussion be held before any action to create a new institutional structure for FS. Conference attendees were actively engaged in the discussion and the discussion continues on NEHA's Web site at the "NEHA Conference Blog."

Pre-conference Courses and Workshops:

- Certified Professional of Food Safety (CP-FS) Review Course
- Biology and Control of Insects and Rodents Workshop
- Epi-Ready Team Training—Foodborne Illness Response Strategies Workshop
- NSF Plan Review Survey Course
- Train-the-Trainer Workshop: Presentation Skills for Food Safety Educators

Food Safety and Protection Educational Sessions:

- Establishing an Effective Field Training Process for Regulatory Retail Food Protection Professionals
- Panel: Response to Establishing an Effective Field Training Process for Regulatory Retail Food Protection Professionals
- Foodborne Outbreak Investigations—Importance of the Environmental Assessment
- Food Smuggler’s Blues—A Multi-Agency Approach to Regulating Imported Foods
- Pooches, Patios, Politics, and Public Health: A Tabletop Exercise Dealing with Dogs in Outdoor Dining Areas
- 15 Years of Food Safety Management Strategies
- Options for Controlling Norovirus from Farm-to-Fork in Ready-to-Eat-Food
- Overview of the Food Safety System in China
- CIFOR: Performance Indicators to Evaluate Foodborne Disease Surveillance and Control Programs
- Food Safety and Security at the World’s Most Watched Event—Super Bowl XLII: Mega Special Event Challenges Revealed
- On the Border? How Much Do You Know About Ethnic Border Cuisine?
- Food Safety Training & Education Needs? Speak Up!
- Cloning: Revolution or Evolution in Food Safety?
- Exploring the World of Indian Food
- Ensuring Beef Is Still for Dinner: Food Safety and the Beef Industry
- Food Safety Training in Restaurants for Special Populations
- Description of the Hotel Food Safety System and How it Compares with HACCP Standards
- Glimpses of the Other Side—Food Safety from a Restaurant Perspective

NEHA also receives regular funding for its AEC & Exhibition through CDC’s and FDA’s conference support grant programs allowing NEHA to continue hosting a top-notch and innovative conference while reducing costs to attendees.

- CDC/NCEH Public Health Conference Support Program – NEHA receives funding to provide general partial support for specific nonfederal conferences in the areas of health promotion and disease prevention information/education programs. This is the 11th year in a row that NEHA has received a conference support grant from CDC.
- FDA/Office of Regulatory Affairs (ORA), Support for Small Scientific Conference Grant Program – NEHA receives funding for full conference registration scholarships for FSPs and FS students to attend its AEC & Exhibition. Qualifying participants are first-time attendees and/or attendees that have no other way of attending the conference. This is the sixth year NEHA has received this grant from FDA.

NEHA’s AEC & Exhibition is the most visible activity NEHA pursues relating to the education of EHPs and FSPs. As such, a great deal of NEHA staff time goes into assuring that each AEC & Exhibition is a valuable and enjoyable experience for all of the attendees. NEHA is well positioned to provide the high quality education and training that meets the needs of today’s EHP and FSP and to anticipate future trends in EH and FS education.

Affiliates & Technical Section Chairs

NEHA has affiliate organizations in all 50 states and formal affiliations with the National Conference of Local Environmental Health Administrators, the Northern New England Environmental Health Association, the National Capital Area affiliate, an Industry Affiliate made up of food industry service providers, an Uniform Services Affiliate consisting of members of the Armed Services and the U.S. Public Health Service (USPHS) active in EH, and a Jamaica affiliate. To further reflect the diversity of NEHA's membership, NEHA has formal affiliations with the 30 universities and colleges that have accredited EH Science and Protection Programs. This affiliation in conjunction with other activities of NEHA accounts for the large number of academicians and other EH scientists within the membership.

Another way NEHA advances EHPs and FSPs is by encouraging its members to participate through an array of committees and technical section positions. NEHA's technical sections reflect the diversity within NEHA and consist of members with specialized expertise in: air/land, children's EH, drinking water quality/water pollution, emerging pathogens/vector control and zoonotic diseases, EH leadership development, EH research, EH tracking and informatics, FS and protection, general EH, hazardous materials and toxic substances, injury prevention/occupational health, institutions and schools EH, onsite wastewater systems, and terrorism and all-hazards preparedness.

Journal of Environmental Health (JEH)

Other NEHA efforts related to the delivery of EH education include its widely respected peer-reviewed monthly publication, *Journal of Environmental Health (JEH)*. The foremost mission of *JEH* is to provide its readers with the latest research and advancements in EH and protection. It serves as an educational resource and the means of elevating the discussion on a range of EH issues with scientific articles, as well as commentaries, reports, and review articles—many of which are on FS. The *Journal* keeps readers up-to-date on current issues, new research, useful products and services, and employment opportunities. As the only direct link to the complete spectrum of EH topics, *JEH* reaches more than 20,000 professionals working to solve problems in areas such as:

- air quality,
- drinking water,
- FS and protection,
- hazardous materials/toxic substances management,
- institutional EH,
- occupational safety and health,
- terrorism and all-hazards preparedness,
- vector control,
- wastewater management, and
- water pollution control/water quality.

Partnerships

NEHA has many partnerships with agencies and organizations to strengthen its role in FS and to advance EHPs and FSPs. NEHA has collaborated—and in many cases still collaborating—with these organizations on grant and contract projects, coalitions, workgroups, consortiums, credentials, policies/codes, and mutual missions. These partners include:

- American Academy of Sanitarians (AAS);
- Association of Environmental Health Academic Programs (AEHAP);
- Association of Food and Drug Officials (AFDO);
- Centers for Disease Control and Prevention/National Center for Environmental Health/Agency for Toxic Substances & Disease Registry (CDC/NCEH/ATSDR);
- Clean Hands Coalition (CHC);
- Council of State and Territorial Epidemiologists (CSTE);
- Food and Drug Administration/Center for Food Safety and Applied Nutrition (FDA/CFSAN);
- Food and Drug Administration/Office of Regulatory Affairs-University (FDA/ORU-U);
- National Association of County and City Health Officials (NACCHO);
- National Association of Local Boards of Health (NALBOH);
- National Coalition for Food-Safe Schools (NCFSS);
- National Environmental, Safety & Health Training (NES&HT);
- National Registry of Food Safety Professionals (NRFSP);
- National Restaurant Association Education Foundation (NRAEF);
- Navy Environmental Health Center (NEHC);
- NSF International (NSF);
- Underwriters Laboratories, Inc. (UL);
- U.S. Army Center for Health Promotion and Preventive Medicine (US ACHPPM);
- U.S. Department of Agriculture/Food and Nutrition Service (USDA/FNS);
- U.S. Department of Agriculture/Food Safety Inspection Service (USDA/FSIS);
- U.S. Public Health Service (USPHS); and many others.

NEHA is well-positioned and has an impressive history spanning seven decades of providing quality education and training across the many disciplines that comprise the EH and FS professions and in representing and anticipating the future needs of EHPs and FSPs. NEHA also continually researches potential funding sources for FS education, outreach, and research. We have always believed that the key to the considerable success that we have attained is our unwavering commitment to our mission statement: “advancing the environmental health and protection professional for the purpose of providing a healthful environment for all.”

How to Enhance Food Safety at the State and Local Level

Federal Food Safety Agencies

There are several examples of federal successes aimed at improving state and local FS programs. CDC's current FS functions should be maintained and enhanced. However, a single federal regulatory FS agency combining elements of FDA, USDA, and other agencies *may* be helpful. The role of such an agency should be to support rather than supplant state and local FS entities.

Federal FS agencies need to:

- Improve **food traceability** from fork to farm
- Improve **food trace back process**
- Improve **screening food imports**
- Have **authority for mandatory product recalls**
- Improve **federal recall notification process** and not depend on state and local agencies to do recall notifications
- Improve **sharing of federal inspection/enforcement information** with state and local agencies

National Food Safety Programs (<http://www.foodsafety.gov/~dms/fs-toc.html>)

CDC

CDC is addressing the below issues through its Food Safety Office, Epi-Ready Team Training workshops, and PulseNet FoodNet programs:

- Improve **food trace back process**
- Improve **sharing of federal inspection/enforcement information** with state and local agencies

CDC's Food Safety Office (<http://www.cdc.gov/foodsafety/>)

Most people do not think about foodborne illness until they become ill from unknowingly consuming contaminated food. While the food supply in the United States is one of the safest in the world, CDC estimates that each year 76 million cases of foodborne illness occur and more than 300,000 persons are hospitalized and 5,000 die from foodborne illness. Tracking individual foodborne illnesses and investigating outbreaks of foodborne disease are critical public health functions and CDC is deeply involved in these activities.

General Information within CDC's Food Safety Office

- Outbreak Investigations

- Overview of CDC Food Safety Programs and Activities (<http://www.cdc.gov/foodsafety/fsactivities.htm>)
- FoodNet – 2007 Preliminary FoodNet Data from CDC Morbidity and Mortality Weekly (MMWR) (<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5714a2.htm>)

Epi-Ready Team Training (http://www.neha.org/epi_ready/index.html)

As mentioned in NEHA’s Organizational Background and Capability section of this policy statement and in cooperation with the CDC’s Food Safety Office, NEHA has developed the nationwide initiative, Epi-Ready Team Training: Foodborne Illness Response Strategies. Epi-Ready is a two-day face-to-face workshop that provides up-to-date foodborne illness outbreak investigation and surveillance training to local and state level EHPs. Epi-Ready aims to increase the competency and confidence level of EHPs through education, including teamwork strategies, and outbreak investigation/reporting, which remains a primary objective of the course. Epi-Ready Team Training amalgamates the many health disciplines (e.g., EH, epidemiology, laboratory, public health nursing, etc.) involved in conducting a successful outbreak investigation in order to emphasize the importance of teamwork.

PulseNet (<http://www.cdc.gov/PULSENET/>)

PulseNet is a national network of public health and food regulatory agency laboratories coordinated by CDC. The network consists of: state health departments, local health departments, and federal agencies (CDC, USDA/FSIS, FDA). PulseNet participants perform standardized molecular sub typing (or “fingerprinting”) of foodborne disease-causing bacteria by pulsed-field gel electrophoresis (PFGE). PFGE can be used to distinguish strains of organisms such as *Escherichia coli* O157:H7, *Salmonella*, *Shigella*, *Listeria*, or *Campylobacter* at the DNA level. DNA “fingerprints,” or patterns, are submitted electronically to a dynamic database at the CDC. These databases are available on-demand to participants—this allows for rapid comparison of the patterns.

PulseNet Objectives:

- Detect foodborne disease case clusters by PFGE
- Allow for real-time communication among state, local health departments, and international partners
- Facilitate early identification of common source outbreaks
- Help food regulatory agencies identify areas where implementation of new measures are likely to increase the safety of the food supply

FoodNet – Foodborne Diseases Active Surveillance Network (<http://www.cdc.gov/foodnet/>)

FoodNet is the principal foodborne disease component of CDC’s Emerging Infections Program (EIP). FoodNet is a collaborative project of the CDC, ten EIP sites, USDA, and FDA. The project consists of active surveillance for foodborne diseases and related epidemiologic studies designed to help public health officials better understand the epidemiology of foodborne diseases in the U.S.

FoodNet Objectives

- Determine the burden of foodborne illness in the U.S.
- Monitor trends in the burden of specific foodborne illness over time
- Attribute the burden of foodborne illness to specific foods and settings
- Develop and assess interventions to reduce the burden of foodborne illness

FDA

FDA is addressing all of the below issues in its Food Protection Plan (FPP), *Food Code*, and ORA-U training program:

- Improve **food traceability** from fork to farm
- Improve **food trace back process**
- Improve **screening food imports**
- Have **authority for mandatory product recalls**
- Improve **federal recall notification process** and not depend on state and local agencies to do recall notifications
- Improve **sharing of federal inspection/enforcement information** with state and local agencies

Food Protection Plan (FPP): An Integrated Strategy for Protecting the Nation's Food Supply
(http://www.fda.gov/oc/initiatives/advance/food/plan.html#3_1)

- FDA's FPP Fact Sheet: <http://www.fda.gov/oc/initiatives/advance/food/factsheet.html>
- *FDA Food Protection Plan Shows Significant Progress:*
<http://www.fda.gov/bbs/topics/NEWS/2008/NEW01856.html>

“Americans enjoy unprecedented choice and convenience in filling the cupboard today, but we also face new challenges to ensuring that our food is safe. This Food Protection Plan will implement a strategy of prevention, intervention and response to build safety into every step of the food supply chain.” —Michael O. Leavitt, Secretary of Health and Human Services, DHHS

HHS Preparing to Open FDA Offices in China, India, Europe, and Latin America This Year
(October 16, 2008 News Release, <http://www.hhs.gov/news/press/2008pres/10/20081016a.html>)

Globalization of the Agency a Key Part of Import Safety Action Plan to Enhance Product Safety

HHS will send the first FDA staff to China, India, Europe, and Latin America before the end of 2008, HHS Secretary Mike Leavitt announced today. “We’re making steady progress to better safeguard our supply of food and medicines, though much work remains,” Secretary Leavitt said. “In the past year, we’ve upgraded labs and equipment, hired additional staff, and begun implementing product safety agreements with key trading partners, including China. Increasing our presence overseas will provide greater protections to American consumers at home and benefit our host countries as well,” Secretary Leavitt added. “Opening these offices will mark a key milestone in the globalization of our efforts to enhance the safety of imported food and medical products.” “The globalization of the food supply and medical product manufacturing has

demanded that we do things differently,” said FDA Commissioner Andrew C. von Eschenbach. “Through our Beyond our Borders initiative, we won’t have to send our experts to another country to work with foreign governments and regulated industry to improve our oversight—we’ll have staff living there and working on the ground 365 days a year.”

The first overseas office will be in China. The U.S. government recently secured formal approval for the office from the People’s Republic of China. The first staff will be in place in Beijing this year, with additional staff to be posted in 2009. Staff is also scheduled to be posted in Shanghai and Guangzhou next year. The department anticipates a total of eight U.S. nationals in China. Secretary Leavitt is scheduled to travel to China in November to meet with Chinese health officials to review mutual efforts to ensure the safety of food and medical products consumed by the two nations, particularly imported goods.

HHS/FDA plans on establishing its second overseas office in the Republic of India, with staff first posting to New Delhi in 2008 and at least one additional office to follow in 2009. Plans at present are for 10 U.S. nationals to be posted in India. The U.S. government is in the process of pursuing India’s formal approval.

In both nations, personnel would work closely with local authorities as well as industries that ship food and medical products to the United States to improve safety efforts. Their activities will include providing technical advice, conducting additional inspections, and working with government agencies and private sector entities interested in developing certification programs. HHS/FDA will also be opening overseas offices in Europe and Latin America before the end of 2008, with a fifth office in the Middle East to follow soon in early to mid-2009.

Department officials are also working to conclude Memoranda of Understanding with Belize, Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama to work together on product safety. Their collaborations could include information-sharing on their respective regulatory systems and joint workshops and training on the safety of food and medical products. The parties will also make efforts to find opportunities for joint training for foodborne illnesses and the oversight of food traded internationally.

Increased collaboration and coordination with trading partners and companies exporting goods to the U.S. is a central component of the Import Safety Action Plan proposed in November 2007 by an interagency working group led by Secretary Leavitt. Previously, federal officials relied extensively on inspections at the border to ferret out unsafe goods, an approach that has not kept up with the exponential growth in global commerce. In addition to border checks, the plan called for partnering with producers of goods overseas to build in quality every step of the way.

Some proposals in the action plan require new authorities to be granted by Congress. The Administration has repeatedly urged congressional action on these, but to date no legislation has passed. Examples include the following:

- Authorizing the department to accredit highly qualified third parties to evaluate compliance with HHS/FDA requirements.
- Authorizing HHS/FDA to require certification of designated high-risk products as an additional condition of importation.

- Authority to refuse admission of imports from a firm that delays, limits, or denies HHS/FDA access to its facilities.
- **Empowering HHS/FDA to issue a mandatory recall of food products when voluntary recalls are not effective.**

Last year, the United States imported more than \$2 trillion worth of products, from roughly 825,000 importers, through over 300 Ports-of-Entry. All projections indicate this volume will continue to rise sharply over the coming years as the scale and complexity of international trade multiplies.

Import Safety Action Plan and Update (<http://www.importsafety.gov/>)

The Interagency Working Group on Import Safety, made up of senior Administration officials, was established by Executive Order on July 18, 2007, to conduct a comprehensive review of current import safety practices and determine where improvements can be made. The Working Group, chaired by HHS Secretary Mike Leavitt, reviewed what is being done and what can be done to promote import safety at three stages:

- In the exporting country
- By U.S. importing companies, and
- By federal, state, and local governments.

They issued a comprehensive Strategic Framework Protecting Americans Every Step of the Way: A strategic framework for continual improvement in import safety (<http://www.importsafety.gov/report/strategicframework/index.html>) followed by a detailed Action Plan for Import Safety (<http://www.importsafety.gov/report/actionplan.pdf>). On July 1, the Work Group issued Import Safety – Action Plan Update (<http://importsafety.gov/report/actionupdate/actionplanupdate.pdf>), which outlines steps taken by the federal government, private sector and international partners to bolster import safety.

Recalls, Market Withdrawals, and Safety Alerts (<http://www.fda.gov/opacom/7alerts.html>)

Recalls are actions taken by a firm to remove a product from the market. Recalls may be conducted on a firm's own initiative, by FDA request, or by FDA order under statutory authority. FDA regulates all food products except meat and poultry products and processed eggs (which is regulated by USDA/FSIS). There is a list of recalls, withdrawals, and alerts issued and include the most significant product actions of the last 60 days, based on the extent of distribution and the degree of health risk. The recalls on the list are mainly Class I. A record of *all* recalls (Class I, II, and III) can be found in the FDA Enforcement Report (<http://www.fda.gov/opacom/Enforce.html>). The FDA Enforcement Report is published weekly by the Food and Drug Administration. It contains information on actions taken in connection with agency regulatory activities. Inquiries about individual actions should be directed to the companies involved.

Definitions of Class I, II, and III recalls:

- Class I recall: a situation in which there is a reasonable probability that the use of or exposure to a violative product will cause serious adverse health consequences or death.
- Class II recall: a situation in which use of or exposure to a violative product may cause temporary or medically reversible adverse health consequences or where the probability of serious adverse health consequences is remote.
- Class III recall: a situation in which use of or exposure to a violative product is not likely to cause adverse health consequences.

Center for Food Safety and Applied Nutrition (CFSAN) (<http://www.cfsan.fda.gov/>)

- Food Defense and Terrorism (<http://www.cfsan.fda.gov/~dms/defterr.html>)
- 2005 *Food Code* (<http://www.cfsan.fda.gov/~dms/fc05-toc.html>)
 - Supplement to the 2005 *Food Code*: <http://www.cfsan.fda.gov/~dms/fc05-su2.html>
 - 2005 *Food Code* Summary of Changes: <http://www.cfsan.fda.gov/~dms/fc05-sum.html>

The *Food Code* is an important part of the strategy for achieving uniform national food safety standards and for enhancing the efficiency and effectiveness of our nation's food safety system. The Supplement to the 2005 FDA *Food Code*, which updates the 2005 *Food Code* and addresses several recommendations made by the 2006 CFP with which the FDA, CDC, and USDA concur. It reflects the current science, emerging food safety issues, and imminent health hazards related to food safety. A Summary of Changes is included in Part 1 of the Supplement to assist in quick identification of the changes. The next complete revision of the *Food Code* will be published in 2009. The Supplement provides the most current food safety provisions to agencies planning to initiate rule-making activities before 2009. In addition, the Supplement gives other users of the *Food Code*—educators, trainers, food service, retail food, and vending industries—up-to-date information on mitigating risk factors that can contribute to foodborne illnesses. HHS; USDA; state, local, and other federal and tribal government agencies; as well as the food industry share responsibility for ensuring that our food supply is safe. Therefore, FDA encourages all jurisdictions to use the 2005 *Food Code* and its Supplement to examine their level of food safety protection and to take the necessary steps to increase their level of safety. HHS and USDA, in partnership with numerous others, will continue to strengthen our nation's food safety system and to work toward uniform and effective food safety standards for food service, retail stores, and retail-level establishments nationwide.

FDA's ORA-University (<http://www.fda.gov/ora/training/ORAU/>)

The Office of Regulatory Affairs' (ORA) on-line university is one of FDA's specialized program centers. Headed by the Associate Commissioner for Regulatory Affairs, ORA works to achieve compliance of regulated products through high-quality, science-based efforts to maximize consumer protection. DHRD's mission is to provide high-quality learning opportunities through the delivery of timely and cost-effective learning products that support the mission and strategic goals of the FDA and that meet the training and development needs of ORA personnel, state and local regulatory officials, and other stakeholders.

Online FS training curriculum:

- <http://www.fda.gov/ora/training/ORAU/default.htm>

- Information on Recalls of FDA Regulated Products, FDA ORA/Office of Enforcement DCMO http://www.fda.gov/ora/compliance_ref/recalls/recallpg.html

USDA

USDA is addressing the below issues through several programs and directives:

- Improve **food traceability** from fork to farm
- Improve **food trace back process**
- Improve **sharing of federal inspection/enforcement information** with state and local agencies

Agricultural Research Service: Collaboration in Animal Health and Food Safety Epidemiology (CAHFSE, “calves”) Program (<http://www.ars.usda.gov/IS/pr/2006/061023.htm>)

Food safety doesn't begin at the grocery store or in the kitchen. It begins on the farm. That's why the Agricultural Research Service (ARS) is in its third year of a multiagency USDA effort to routinely track the origins of certain disease-causing bacteria that can occur in meat animal production. The program will also enhance overall understanding of bacteria that pose food safety risks on farms and in processing plants. ARS is the USDA's chief scientific research agency.

In 2003, ARS, along with USDA's Animal and Plant Health Inspection Service and Food Safety and Inspection Service (FSIS), began what's called the Collaboration in Animal Health and Food Safety Epidemiology (CAHFSE, pronounced “calves”) program. The goal is to find out which pathogens are moving from the farm to the processor and then on to retail outlets. A detailed sampling, testing and analytical protocol is being followed across the country to determine the on-farm and in-plant prevalence of *Salmonella*, *Campylobacter*, *Escherichia coli* and *Enterococcus* bacteria. CAHFSE is a national system that will meet the changing needs of the industry.

FSIS Food Recalls (http://www.fsis.usda.gov/Fsis_Recalls/index.asp)

FSIS monitors recalls of meat and poultry products produced by federally inspected establishments. Information is available about those recalls that are still in progress as well as any public health alerts issued by FSIS. There is an archive that contains press releases and notification reports issued by FSIS in conjunction with recalls of meat and poultry products from 1996 to the present. The quantity of product recovered is also available (for recalls since September 2005). FSIS regulates meat and poultry products and processed eggs; FDA regulates all other food products. There is also additional information on recalls of products regulated by FDA, which provides a list of recalls, withdrawals, and alerts issued in the last 60 days. And other information about recalls, alerts, and warnings is provided by other Federal and State agencies.

FSIS, Food Recall Directive of Meat and Poultry Products
(<http://www.fsis.usda.gov/OPPDE/rdad/FSISDirectives/8080.1Rev4Amend3.pdf>)

- Does FSIS have reason to believe that the product in question is adulterated or misbranded?
- Does any of the product in question remain in commerce and available to consumers? (A program employee must verify all facts before the recall committee can determine if product in commerce is not available to consumers.)
- Is FSIS prepared to detain or move to seize the product in question?

If the answer to all of the above questions is “yes,” a recall should be recommended. If the answer is “no” to any of the above questions, the committee should not recommend a recall. If the committee does not recommend a recall, RMS will document results of the preliminary inquiry and evaluation with a memo to the file. When a recall is recommended, RMS will submit a recall recommendation.

State and Local Food Safety Agencies

FS responsibilities at the state and local level reside in different agencies (health, agriculture, tourism) and are administered from different levels (state, region, district, county, city, or township). Programs to enhance local/state FS cannot be one size fits all.

To improve FS and food security, federal funding is needed to build local/state capacity in the area of:

- Staffing for regulatory FS inspection and enforcement
- Staffing for foodborne outbreak investigation
- Retail FS training for regulators
- Manufacturing FS training for regulators
- Leadership development training in EH (Baby Boomers are retiring)
- FS inspection equipment for regulators
- Improving communications between federal agencies, state agencies, and local jurisdictions involved in FS

Local Health Departments: Crumline Award Winners (2007 and 2002 no award given)

2008 Crumline Award Winner—Sacramento County (CA) Environmental Management Dept.

(<http://www.fpi.org/images/sacramento%20executive%20summary.pdf>)

Alicia Enriquez, Supervising Environmental Specialist, EnriquezA@SacCounty.net

- Staffing for regulatory FS inspection and enforcement and staffing for foodborne outbreak investigation
 - Recruitment and Retention Task Force – This Sacramento County Environmental Management Department (EMD) team is responsible for assessing the recruitment methods that are available to this department and making recommendations to management. Once recommendations are approved, this team is also responsible for implementation. The team has completed recruitment flyers, designed and upgraded booth displays, improved Web site information, staffed career fair booths, conducted classroom presentations, and posted positions on career Web sites such as Monster.com.

Some of the materials, such as the recruitment flyer, have even been adopted for use by other groups such as the California Conference of Directors of Environmental Health.

- Retail FS training for regulators and manufacturing FS training for regulators
 - REHS Core Training Team – This team of staff members is responsible for keeping the REHS Training Program running smoothly and for providing all the tools necessary for trainees to continue the program’s successful 95% REHS passing rate. The Sacramento County Environmental Health Dept. (EHD) has a formal REHS Training Program as well as continuous training for registered staff. The REHS Training Program is based on the criteria outlined by the State of California, and both REHS and continuous training is based on FDA National Retail Program Standards.
 - The REHS Training Program plan was revised, and a full training program was established in 2004. New REHS trainees are immersed in a six-week program that includes classroom review of 17 internal policies and procedures, as well as classroom and field training in all aspects of the inspection process. Field and classroom training are provided by senior and supervisory Environmental Specialists (ESs). All trainees must pass both a supervisor field review and a food safety certification course prior to being cleared for independent field inspections. In addition, EHD provides paid registration and travel to an REHS training course, Basic Inspector Academy, and pertinent California Environmental Health Association (CEHA) educational symposiums and updates. The training coordinator works closely with EMD’s other divisions in order to ensure all REHS trainees receive training hours in all EH areas as required for admission into the REHS examination.
 - Sacramento County and EHD supports professional development through a tuition reimbursement program and internal training opportunities such as: supervision courses for supervisors and lead personnel, Leadership Academy for managers and supervisors, customer service classes, communication classes, and computer training. Every year, EHD staff work together with their supervisor to design an annual training and development plan that identifies and provides for individual training needs and professional growth. EHD also provides ongoing training for staff on current topics in EH. For example, prior to the implementation of the CalCode in July 2007, EHD held numerous training sessions to provide all ESs with the same information that was presented by the California Retail Food Safety Coalition in a “Train-the-Trainer” CalCode course. EHD also contracted with a private REHS consultant with extensive experience to provide standardization training to the EHD staff and assist with other training activities. More recently, EHD has held in-house training sessions on special topics such as: pasteurized eggs, ethnic foods, and commercial dishwashing machines. The retail food industry is dynamic, and EHD is committed to providing training that will keep staff prepared and informed.
 - Retail food info – EHD works hard to maintain an open dialogue with the retail food industry and has encouraged feedback from operators regarding its Retail Food Inspection Program. The Retail Food Industry Work Group also provides input to promote consistency in inspections. This provides EHD with an excellent opportunity to conduct self-evaluation and make productive changes.
- Leadership development training in EH (Baby Boomers are retiring)

- The REHS training program and recruitment efforts have been effective for increasing staffing. To date, EHD has had 12 employees successfully complete the REHS Training Program and currently employs 12 trainees in different stages of the program. EHD now easily fills vacancies. With increased staffing, the frequency of inspections has increased substantially. Major risk factor violations decreased overall by 17% from 2005 to 2007 and by 30% from 2006 to 2007. The number of reported enteric diseases has generally declined since 2002.
- FS inspection equipment for regulators
 - Pilot Program for Computerized Inspections/Tablets – Several ESs were selected to conduct inspections using laptop computers and new software. The testing and feedback provided valuable information which will assist with a smooth transition to computerized inspections.
- Improving communications between federal agencies, state agencies, and local jurisdictions involved in FS
 - Support and Resources – In addition, EHD has formed a partnership with the Sacramento County Business Environmental Resource Center (BERC), a one-stop non-regulatory permit assistance center established to help businesses understand and comply with federal, state, and local environmental regulations. BERC is another outlet used to provide the public with accurate, useful information about the laws and requirements for retail food facilities. EHD has also fostered strong relationships with other county and city departments and agencies, such as the local building departments, local law enforcement, local fire districts, local code enforcement, University of California Cooperative Extension, Sacramento County Agricultural Commissioner, California Department of Public Health, and FDA.
- Other/Additional Information
 - Sacramento County EMD was the 2008 Crumbine Award winner for their implementation of the nation's first color-coded placard program (with industry involvement), external communications, particularly with the public about the placard program, their work force development strategy, training, and their multilingual inspection guidelines (October *JEH*, pg 79). Over the course of six years (2002 through 2008), EMD has implemented several multifaceted enhancements to its Retail Food Program. These program improvements were intended to both greatly increase food safety practices at retail food facilities throughout Sacramento County and simultaneously reduce the occurrence of major violations identified as risk factors for foodborne illness by the CDC. To accomplish this goal, EMD collaborated with many stakeholders from the retail food industry, local governing bodies, and the public to put the following three objectives into place: 1) increased inspection frequency based on risk, 2) accurate and timely disclosure of inspection results to the public, and 3) increased retail food operator understanding of the CDC risk factors and their prevention. The Retail Food Program Enhancements were developed and implemented in two phases. As the second phase of the food enhancements comes to completion, notable improvement of food safety practices in retail food facilities is evident and reflected by the reduced

occurrence of major risk factor violations documented during inspections.

2006 Crumbine Award Winner—Multnomah County (Portland, OR) Environmental Health Services (www.mchealthinspect.org)

(http://69.63.144.35/topics/environmental/documents/Multnomah-CountyCrumbineAwardarticle82806_000.pdf)

Lila Wickham, Environmental Health Program Manager, lila.a.wickham@co.multnomah.or.us

Jon Kawaguchi, Senior Environmental Health Specialist, jon.k.kawaguchi@co.multnomah.or.us

- Improving communications between federal agencies, state agencies, and local jurisdictions involved in FS
 - Partners have included industry, the state public health department, FDA, USDA, schools of higher learning, the community, community-based organizations and other associated agencies that serve as bridges to employment of food workers and consumers.
- Other/Additional Information
 - Multnomah County is the most populous county in Oregon, with 19% of the State's total population and 26% of the State's total ethnic and racial minority populations. Portland is the most populous city in the county. Multnomah County has a commitment to assuring a safe and healthy place to work and play for everyone who lives and visits. To meet that end REHSs perform approximately 8,000 education-focused inspections and respond to approximately 373 foodborne and/or waterborne illness complaints a year. The inspection and education model is designed to provide education, assure safe food, control disease that can be acquired from food and water, improve safety in the workplace, reduce unintentional injuries, and support other public health activities by incorporating prevention activities into the inspection process. Multnomah County has been working toward the progressive excellence for the last five years by aiming toward the principles outlined in the Crumbine Award using the Essential Services of Environmental Health and the FDA Program Standards as the roadmap.

2005 Crumbine Award Winner—City and County of San Diego (CA), Dept. of Environmental Health (<http://www.afdo.org/afdo/states/upload/crumbine%202005.pdf>)

Gary Erbeck, Director, gary.erbeck@sdcounty.ca.gov

Liz Pozzebon, Chief, Food and Housing Division, Liz.Pozzebon@sdcounty.ca.gov

- Staffing for regulatory FS inspection and enforcement
 - There are 52 REHSs and 11 support staff within the Food and Housing Division (FHD). REHSs must earn a science-based degree and pass a comprehensive state examination in order to conduct food safety inspections. FHD also promotes our profession by offering internship opportunities for high school and college students. A career ladder has also been established within the department to encourage support staff to continue their education. A 5% pay differential was implemented in 2002 for those who have earned the REHS within the department. Additionally, two new classifications were added, Environmental Health Specialist Trainee and Environmental Health Technician. Trainees and support staff are encouraged to become an REHS with paid tuition and book allowance incentives. Since 2001, nine members of support staff have worked as

Temporary Environmental Health Technicians. Three have become permanent Environmental Health Technicians, and three have become REHSs. Leadership training has also been provided to the FHD Chief and Supervisors through attendance at comprehensive six-day leadership-training academies. Additionally, CEHA has recognized three FHD staff as “REHS of the Year” since 2000.

- FHD field staff are trained with an emphasis on standardization and risk reduction. New field staff are required to complete a comprehensive six-week training program covering major topic areas outlined in the FDA National Retail Food Program Standards. They also, in addition to earning their certification as an REHS, must pass the food safety manager certification examination required of our food facilities. Additionally, all field staff receive ongoing training and are now required to be standardized by a statewide standard each year to ensure consistency and uniformity in inspection and interpretation of the state retail food law.
- Staffing for foodborne outbreak investigation
 - The FHD foodborne and waterborne illness complaint process is a five-step procedure. This includes active and passive surveillance, environmental assessments, communication, evaluation and management of the data, and quality assurance/training. Field investigations are conducted by an REHS. A designated senior staff member serves as the lead investigator in large outbreak investigations.
- FS inspection equipment for regulators
 - San Diego’s Department of Environmental Health (DEH) has made significant investments in technology—such as state-of-the-art computer software applications and hardware, Internet accessibility and use, and communication equipment—that is essential to providing program services, assessing program activities, supporting staff, and measuring improvements. The DEH Web site is utilized to provide further public outreach and to increase community and industry awareness about current EH issues including DEH’s new inspection report and performance measures dashboard report. Computer database systems like the land-based KIVA system provide the food facility inspection program an integrated permitting and inspection data collection tool. This KIVA system is shared not only among other divisions within DEH, but also with other county departments, maximizing the system’s utility and efficiency. KIVA produces a multitude of reports that indicate inspection frequencies, risk factor violations, and statistical trends.
 - FHD has also implemented a new method for data input into the KIVA system by utilizing scanners to capture data from specially designed paper-based inspection reports. This innovation relieves FHD staff from manual data entry of inspection data. The scanning systems will also collect more data from the inspection reports than the previous paper-based system, which will provide more comprehensive information and identification of trends. The next phase currently in development is called “Documentum.” This document management system will retain an electronic copy of each scanned inspection report and eventually allow FHD to discontinue the hard-copy storage of inspection reports. It will also allow FHD staff electronic access to all inspection reports from any county office. Cellular telephones and Blackberry devices

- that are provided to each staff member also enhance FHD staff's ability to communicate from the field during inspections and emergencies.
- Each staff member has access to desktop computers, e-mail, and the Internet. Thermometers, thermocouples, holding thermometers, infrared thermometers, safety boots, disaster preparedness kits, food sampling kits, chemical test kits, pH meters, vehicles, digital cameras, black lights, flash lights, Nextel radio cellular phones, and pagers are all standard equipment for field inspectors. Audiovisual equipment includes laptop computers, LCD projection units for presentations, screens, VCR, television, training videos, video teleconferencing, and an overhead projector.
 - Improving communications between federal agencies, state agencies, and local jurisdictions involved in FS
 - To assure that FHD's goals and objectives are valid, and as effective as possible, we continue to look globally and on the national, state, and local levels. Globally, San Diego is a border county with Mexico. This has resulted in binational food safety issues that have impacted local public health. Outreach efforts by FHD with government officials from Mexico and state and federal agencies have improved communication, response, and enforcement. On a national level, we have implemented the FDA National Retail Food Program Standards and have adopted the Healthy People 2010 objectives of improving food employee behaviors and food preparation practices and reducing foodborne illness caused by key pathogens. On the California State level, the FHD program Chief and DEH Director have leading roles in rewriting California's food law by applying the FDA's *Model Food Code*. On the local level, risk assessments are conducted to assess food employee knowledge of risk factors and to identify trends in the occurrence of risk factor violations observed during inspections and foodborne illness investigations. With this data, we are better able to direct the implementation of our long-range plan based on relative degree of risk.
 - Advance team building efforts with epidemiologists, laboratory microbiologists, public health nurses, law enforcement and other health care providers facilitate a positive working relationship during the critical times. In addition to outbreak specific meetings, weekly staff meetings allow the FHD and HHSA to collaborate on streamlined investigations and data tracking for outbreaks. This reduces duplication and speeds up investigation results. Outbreaks that are cross jurisdictional, or have involved a processed food product, have been coordinated with other state and federal agencies to ensure timely and effective response in removing an adulterated food product from distribution and sale.
 - The cooperative working relationships that the FHD staff has developed with HHSA, state and federal agencies, the medical community, the regulated industry, and the public have contributed to decreasing trends in risk factor violations, increased self-reporting by the regulated industry, and heightened awareness by the public of food safety. Working together, these components resulted in rapid reporting and response to a multi-jurisdictional outbreak of *E. coli* 0157:H7 in October. Within 48 hours, an adulterated food product was identified and removed from sale and distribution in multiple counties, saving lives and minimizing the impact to the public's health and safety.
 - Other/Additional Information

- The FHD employs 63 professional and support staff. It is also a full-cost recovery program funded by food facility permit fees. Operating at full cost recovery ensures the stability of program staffing and resources especially considering the inconsistency and vulnerability of County General Purpose Revenues.

2004 Crumline Award Winner—City of Fort Worth (TX) Consumer Health Division

<http://www.fpi.org/images/2004%20fort%20worth%20application.pdf>

Jason Lamers, MPA, Planning and Communications Coordinator, City of Fort Worth Public Health Dept., Jason.Lamers@fortworthgov.org

- Staffing for regulatory FS inspection and enforcement and staffing for foodborne outbreak investigation
 - Staff Participation – The City of Fort Worth Consumer Health Division (CHD) has developed an integrated team approach to identify and resolve problems, prioritize services, and develop programs. The division fosters professional development through provision of continuing education opportunities in the food, pool, environmental, and childcare safety arenas. CHD draws on its diverse and well-trained staff; the average Consumer Health Specialist (CHS), which is an enhanced version of the traditional “sanitarian,” has 11 years of public health experience and eight years of inspection experience. All 15 CHSs have bachelors’ degrees and RS licenses. Of those, five also have related masters’ degrees and one has a doctorate.
- Staffing for foodborne outbreak investigation
 - Epidemiological Capability – The Fort Worth Public Health Department (FWPHD) Epidemiology and Assessment Division provides internal epidemiological response and surveillance activities. These activities are reinforced through a Memorandum of Understanding with the Tarrant County Public Health Department (TCPHD). CHD provides the initial on-site investigation and TCPHD conducts laboratory testing, follow-up, and medical surveillance reporting. An ArcView™ Geographic Information System is used to constellate and track Foodborne Illness (FBI) outbreaks. Consequently, CHD is able to identify outbreaks, determine suspected source, infer intentionality, and coordinate needed interventions.
- FS inspection equipment for regulators
 - Data Management and Utilization – SWEEPS® is the centerpiece of CHD’s data management system. The SWEEPS® program offers the capability to retrieve reports and data immediately, greatly reducing response time in the field and improving overall efficiency. This system of data management has minimized the use of a paper-based filing system. This resulted in a pervasive improvement in the manner that CHD conducted business by allowing instantaneous access to inspection histories, complaint data, and billing records. The main benefit of this change was the ability to immediately enter data instead of having to key in a paper backlog of several months thereby allowing staff to support other activities.
 - Equipment – A meticulous self-analysis of long-term needs was conducted and structured CHD’s budget over the past five years to accommodate equipment acquisition. Extensive research of available technology enabled CHD to purchase digital stem-type

thermometers, Barnant 115[®] thermocouple thermometers, Raytek[®] Raynger[®] ST[™] infrared non-contact thermometers, and waterproof thermometers. Negotiations with cellular providers resulted in a lease arrangement that enabled each CHS to have a cellular phone. This cellular lease plan was renegotiated in 2003 resulting in additional savings and the 2-way radios were completely eliminated. Further, the long-term CHD plan integrated newly leased Pentab[™] tablet computers and expanded software to dramatically reduce paperwork, provide immediate data entry and streamline the overall inspection process. The plan also allowed for the purchase of an additional CHD vehicle.

- Other/Additional Information
 - Despite rapid municipal growth, CHD has experienced diminished fiscal support over the past few years resulting in decreased funding, personnel, and other resources. However, CHD has succeeded in meeting and exceeding service goals despite the current economic climate by integrating innovative uses of technology, creative programming, maximizing limited equipment resources, personnel training, and staff dedication. In keeping with the City of Fort Worth’s long-term goal of becoming the “safest city in America,” the staff optimizes their effectiveness and efficiency by becoming conversant with limited technological resources and the use of cross-training to support duties and assignments across traditionally defined responsibilities. Thus, providing services to meet demand required that each qualified staff person teach both Food Handler and Childcare classes, as well as being assigned to a rotating “on-call” schedule to cover special events and mobile food vendor inspections. Of the 24 full-time employees, 15 are CHSs: 13 CHSs are assigned a territory and responsibility for its permitted facilities; two Senior CHSs serve as team leaders and support quality assurance; and six Customer Service Representatives provide clerical and customer support, with program oversight accommodated by two supervisors and a Consumer Health Manager.

2003 Crumline Award Winner—County of Santa Clara (San Jose, CA) Dept. of Environmental Health, Consumer Protection Division, Food Safety Program

<http://www.fpi.org/images/2003%20santa%20clara%20crumline%20nomination.pdf>

Vicki Everly, Senior Training and Resource Specialist, Dept. of Environmental Health, Consumer Protection Division, vicki.everly@deh.co.scl.ca.us

Richard Fuchs, MPH, REHS, Director, Dept. of Environmental Health, Consumer Protection Division

- FS inspection equipment for regulators
 - The Department was a pioneer—a first in California—in 1994 by initiating an agreement with the County Executive that any end-of-year EH balance would “roll-over” to the next year, rather than reverting back to the general fund. This endeavor, however, had its risks. If the Consumer Protection Division (CPD) of the County of Santa Clara Department of Environmental Health (DEH) went over budget there was no bailout from the County—layoffs would occur. The advantage was that we would cease operating under a “use it or lose it” budget—long-term planning could now be implemented for major upgrades, like the purchase of new field equipment such as thermocouples and non-contact infrared thermometers, as well as computer equipment.

- Digital Standardization – The newest phase of standardization—the CPD Digital Standardization Project—was kicked off in September 2002 when a computer was placed on the desk of all CPD staff. The project includes a Department Intranet including online policies, forms, and resource reservations to name but a few features. In addition, staff are currently being trained to do their own data entry for daily time reporting as well as inspection results, thereby freeing support staff time to assist with other program specific projects. The next phase of digital standardization will place a PDA in the hands of all 50 food program field specialists and seniors. The software for this phase was finalized in March 2003 with CPD input in a region-wide pilot project funded by an FDA grant.
- Improving communications between federal agencies, state agencies, and local jurisdictions involved in FS
 - CPD had always been active in food safety issues at all levels of government, had successfully built coalitions with other agencies and industry, and had achieved many success stories over the years. CPD’s former Director was the primary author of the California Uniform Retail Food Facilities Law (CURFFL), groundbreaking food safety legislation now enforced throughout California. CPD has been active in CFP and its work was instrumental in developing guidelines for nationally recognized certified food manager training. CPD’s professional staff, at all levels, have always participated in and been encouraged to take an active role in organizations outside CPD.
 - Food Safety Outreach—Bay Area Food Safety Alliance – CPD’s leadership was instrumental in the development of the Bay Area Food Safety Alliance (BAFSA)—a cooperative effort on the part of industry, academia, and regulatory personnel to promote the application of HACCP principles. CPD efforts helped garner the support and participation from eight San Francisco Bay Area jurisdictions, which together brought this project to reality.
 - FDA Program Standards Partner – In early 2001, CPD partnered with FDA by enrolling in the Voluntary National Retail Food Regulatory Program Standards. To date, CPD has achieved full compliance with Standard No. 8 and based on its own detailed evaluation, feel CPD is in full or partial compliance in 65% of all other areas. Furthermore, areas needing additional work have been prioritized for completion with short, medium, and long-term time frames through fiscal year 2004 (ending June 30, 2004). Specific to the FDA Standards for improving CPD’s food safety program, the CPD Food Program Enhancement Committee (FPEC) was formed to bring together the collective strength of both management and staff. CPD is now poised to embark on the resource-heavy commitment to conduct a baseline assessment for full service restaurants and participate in a regional baseline assessment for schools; training will be in April 2003 with a target completion for both assessments in December 2003.
- Retail FS training for regulators, manufacturing FS training for regulators, and staffing for regulatory FS inspection and enforcement
 - Employee Education – Prior to 1995, training for newly hired professional staff—both REHSs and trainees—was largely a “hit or miss” prospect. New employees were sent out into the field with colleagues for a few days “to learn the ropes.” For trainees, CPD’s approach was a little more formal, but if employees were an REHS, it was assumed they knew the job! In 1995, CPD formalized a training plan for trainees and then in 1997 for

newly hired REHS staff. CPD's philosophy: *We make no assumptions*. CPD provides all newly hired professional staff with the same base knowledge that will allow them to perform to their full capacity.

- The Division's training program has never been more important than in the last two years. In 2000, CPD hired one new REHS and six trainees; in 2001, CPD again hired one REHS and five trainees. Not since 1981 had such a large number of professional staff joined CPD! In accordance with the mandates of California law, CPD focused considerable in-house resources towards meeting the "trainees" required training needs—for some, as much as 600 hours of on-the-job training!
- Since 1997, CPD modified the training plan after each round of new employees to ensure the changing needs of its program were met as well as to incorporate new ideas. CPD also embarked on a series of cross-training class sessions that will assist employees in mastering additional elements of its many program demands. In 2001, to meet FDA Program Standards, CPD implemented mandatory seven-hours per year of food safety "continuing education." CPD's latest innovation to assist in achieving this goal was the creation of an immediately popular "Industry Info" workshop series—a non-required monthly one-hour onsite training session where an industry representative shares his or her knowledge and skill.
- CPD's employee education plan also helps bring food safety information to more than 15,000 County employees. As an employer, the County of Santa Clara offers a large number of training classes free of charge to employees—classes in management, communication, computer skills, and wellness. CPD created a two-hour "Would Your Kitchen Pass the Test?" food safety class geared for the home kitchen. More than 75 attendees have benefited from this class offered through the *CountyWise* program.
- CPD participates in health fairs sponsored by the County, including an annual event for City of San Jose and County employees that attracts more than 4,000 attendees. The County publishes a newsletter for all employees, *Comline*, and each year for food safety month and at other appropriate times, CPD submits articles for inclusion. In 1995, DEH launched a monthly in-house newsletter, *ShopTalk*, distributed to more than 140 DEH employees and frequently contains information regarding food safety relevant to all employees and their families. It would be difficult to work for DEH or the County of Santa Clara and escape our food safety message!

2001 Crumbine Award Winner—Maricopa County (Phoenix, AZ) Environmental Services Dept.
(http://www.fpi.org/images/2001%20maricopa_application.pdf)

Dave Ludwig, Division Manager, Maricopa County Environmental Services Dept.,
dludwig@mail.maricopa.gov

- Staffing for foodborne outbreak investigation
 - Epidemiological Capability – Maricopa County Environmental Health Division (Division), as part of its responsibility to regulate food safety, receives and investigates complaints of foodborne illness by the public. The Division takes much pride in having had a highly effective program for foodborne illness investigation in place for a number of years. The foodborne illness (FBI) program has been recognized on the national level as indicated by its receipt of a National Association of Counties Achievement Award in 1997.

- Leadership development training in EH (Baby Boomers are retiring)
 - In 1998, to address employee morale challenges, the Division created an Employee Job Satisfaction Committee (Committee). The Committee was empowered to develop clear Division goals and objectives to improve overall employee satisfaction. The Committee comprised representatives from all facets of the Division, with the highest representation from field Environmental Health Specialists (EHSs). The Committee developed the 1998 Employee Job Satisfaction Improvement Plan, which established clear goals and objectives for the Division with designated deadlines.
 - The objective was to empower Division employees by establishing additional opportunities for staff at all levels to have effective input to creating recognizable improvements in programs. Improving communication system's capabilities and promoting increased positive interactions between staff and management was the most appropriate method to increase staff involvement. Action committees and focus groups such as the Computer Focus Group, Employee Job Satisfaction Committee, and Employee Awards Committee were formed to develop recommendations for program planning that encompassed customer, employee, and management concerns. In addition, EH employees were encouraged, during the employee evaluation process, to develop individualized work plans that incorporated desired objectives for personal and professional growth and well-being. This information was reviewed and discussed with the employee's supervisor in a one-on-one evaluation process.
 - Employee satisfaction is now measured within the Department and Division through the use of a Job Satisfaction Survey. This survey measures employee approval on a sliding scale. A measure below 5.0 reflects negatively on the Division and a measure above 5.0 reflects positively on the Division.

- FS inspection equipment for regulators
 - Division EHSs employ powerful notebook computers in the field, using the Remote Inspection System (RIS) software program that was developed and refined in house, to enter all information generated during fieldwork into the computers (business changes, new owners, inspections, and foodborne illness reports). The information collected is uploaded to the upgraded network system, approved by the assigned supervisor, and sent to the main Division offices where database tables are maintained. [Pg 25]
 - RIS provides EHSs with all related inspection, permit, and business information for food establishments within their assigned district, allowing them to be more efficient, knowledgeable, and productive in performing their duties.

- Improving communications between federal agencies, state agencies, and local jurisdictions involved in FS
 - The Division coordinates efforts with numerous other government agencies. It utilizes the expertise of the Arizona Department of Health Services (ADHS) Laboratory, which accepts and analyzes food samples collected by Division staff in the investigation of foodborne illnesses and outbreaks. The Maricopa County Department of Public Health also maintains a laboratory, which provides bacterial analysis of drinking water. The Division also works with the FDA regional office, the Arizona Department of Agriculture

State Meat and Poultry Inspection Program, and the local Native American communities whenever appropriate.

- In 1998, with the signing of an FDA Partnership Agreement, the HACCP Program represented the Division in the HACCP Alliance Pilot Program. The partnership consists of FDA, ADHS, industry representatives, and five counties within the State of Arizona. The HACCP Alliance is a nationally recognized HACCP initiative to study the application of HACCP principles to the retail food industry and is in the process of evaluating a variety of food safety management systems. This initiative has already provided invaluable industry–regulatory HACCP training and insight into “real world” HACCP application.
- The Alliance program has initiated a noticeable change in the way inspectors and industry view food safety management versus regulatory roles. Inspectors utilizing HACCP techniques focus on the real regulatory objective of food protection. The Alliance has initiated the innovative ideology of “partnering with industry” in a common determination of food safety objective, and reduction of risk factors through managerial control. EHSs are currently working in the field with industry to verify food safety management practices based on risk factors. This unique project includes continuing development of HACCP interview techniques, menu review, and program evaluation that may be used to develop future national standards and practices. Individualized HACCP forms are developed by industry with regulatory input that reflects a comprehensive, scientifically sound food safety management system, incorporating HACCP principles and emphasizing managerial control over risk factors. Industry response to this pilot program has been overwhelmingly positive with four large national chain restaurant organizations becoming part of the Alliance since its inception.

2000 Crumline Award Winner—Olmsted County (MN) Health Dept.

<http://www.afdo.org/afdo/states/upload/2000%20Crumline%20Report.pdf>

Pete Giesen, MS, RS, EH Manager/PH Emerg. Prep. Coord., giesen.pete@co.olmsted.mn.us

- Other/Additional Information
 - A strength of Olmsted County’s division is the diversity of staff: three and a half Sanitarians, two Senior Sanitarians, one Health Educator, three Technicians, one Secretary, one Environmental Health Services Coordinator, and one Director. The Sanitarians, Coordinator, and Director are all registered sanitarians; obtain an average of 15 continuing education units each year, enhancing not only their food safety knowledge, but also communication and presentation skills, and even a “Thinking Outside the Lines” seminar. Olmsted County regularly participates in external committees and project work, including state committees and presentations. The addition of an epidemiologist to the department staff in 1991 enhanced disease surveillance, improved communication with the medical community, and helped uncover many local, statewide, and even national outbreaks. In addition to the conventional inspection equipment, staff now carry, or have access to, thermocouples, infrared thermometers, a computerized data-logging thermometer, and pH meter. Each sanitarian also has a personal computer with e-mail and access to the Internet.

Other LHDs to research and possibly include:

Allegheny County (Pittsburg, PA) Health Dept.
Mike Diskin, mdiskin@achd.net

Columbus (OH) Public Health Dept.
Keith Krinn, Environmental Health Administrator, klkrinn@columbus.gov

Cuyahoga County (Cleveland/Parma, OH) Board of Health
(<http://www.ccbh.net/ccbh/opencms/CCBH/index.html>)
John McLeod, Director of Environmental Health, jmcleod@ccbh.net

DeKalb County (GA) Board of Health
Janice Buchanon, Food Protection Program Director, jdbuchanon@dhr.state.ga.us
Michael Smith, Director of Environmental Health

Lake County (IL) Health Dept. (1999 Crumbine Award Winner)
(<http://www.afdo.org/afdo/states/upload/1999%20Crumbine%20Report.pdf>)
Dale W. Galassie, M.A., M.S., Executive Director

City of Madison (WI)
Tommye Schneider, Director of Environmental Health and Laboratories,
tschneider@cityofmadison.com

New York City Dept. of Public Health and Mental Hygiene
Sharon Balter, MD, Medical Director, Waterborne and Enteric Diseases Unit, Bureau of Communicable Disease, sbalter@health.nyc.gov
Heather Hanson, MPH, City Research Scientist, hhanson@health.nyc.gov

Oakland County Health (MI) Dept.
Terri Rose, roset@oakgov.com

City of Plano (TX) Health Dept.
Brian Collins, Director of Environmental Health, City of Plano Health Dept., brianc@plano.gov

Salt Lake Valley (Salt Lake City, ? UT) Health Dept.
Gary Edwards, Executive Director, gedwards@slco.org

City and County of San Francisco (CA), Dept. of Public Health
Larry Pong, Principal Inspector and Manager of Training, lawrence.pong@sfdph.org

Seattle/King County (WA) Public Health Dept.
Larry McKenrick, larry.mckenrick@metrokc.gov
Jenny Koepsell, Epidemiologist, jenny.koepsell@kingcounty.gov

Southern Nevada Health Dist./Clark County (Las Vegas, NV) (1998 Crumbine Award Winner)
(<http://www.afdo.org/afdo/states/upload/1998%20Crumbine%20Report.pdf>)

Steve Goode, Assistant Director, goode@snhdmail.org
Mark Bergtholdt, EH Supervisor, Bergtholdt@snhdmail.org

State Health Departments

State of Florida

Dr. Roberta Hammond, EH Director, roberta_hammond@doh.state.fl.us

Dean Bodager, RS, Regional Env. Epid., Dean_Bodager@doh.state.fl.us

They have regional food/water Epi program people that may be connected to locals, have a great system that coordinate between local and state.

Minnesota Dept. of Health

Kirk Smith, DVM, PhD, Supervisor, Foodborne, Vectorborne, and Zoonotic Disease Unit,
kirk.smith@state.mn.us

New York State Dept. of Health

Barbara Gerzonich, R.S., Chief, Food Prot. Section, Bureau of Community EH and Food Protection, Division of EH Protection, bmg02@health.state.ny.us

South Carolina Dept. of Health & Environmental Control

C.P. Kanwat, Foodborne Epidemiologist, kanwatcp@dhec.sc.gov

Washington State Dept. of Health, Environmental Health

Janet Anderberg, Public Health Advisor, WA State Dept. of Health, EH,
Janet.anderberg@doh.wa.gov

References

- CDC, Foodborne Outbreak Response and Surveillance Unit. (1990-2003). U.S. foodborne disease outbreaks—Annual listings. Retrieved October 21, 2004 from http://www.cdc.gov/foodborneoutbreaks/us_outb.htm.
- Hensley, S. (2000). International cuisine reaches America's main street. Retrieved November 30, 2004 from <http://www.restaurant.org/pressroom/pressrelease.cmf?ID=124>.
- Simonne, A., Nille, A., Evans, K., & Marshall, M.R., Jr. (2004). Ethnic food safety trends in the United States based on CDC Foodborne Illness Data. *Food Protection Trends*, 24(8), 590-604.